Central Services
Facility Management Division

MEMORANDUM

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To: Members of the Budget Committee

From: Glen Svendsen, Manager
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Subject: Energy Management and Conservation Policy

Background

Developing and implementing cost effective energy management and conservation strategies support the principles of sustainability adopted by the Eugene City Council in February, 2000. The resolution defines how the sustainability principles would be incorporated into City policy decisions and operating practices. The resolution states in part that the City will operate its facilities in a sustainable manner and develop strategies to implement sustainable practices in maintenance and facility design. The policy further states that the City will lead by example in implementing sustainable practices.

The City' s energy conservation and management program is a major component of the overall sustainability effort. In 1995, the City initiated a capital program specifically targeted to energy conservation projects in the City' s largest and most energy inefficient facilities. These projects were funded primarily from a loan from the Fleet Fund that will be repaid from savings on utility bills. Some energy conservation projects, such as the Conference Center and the Atrium projects, were funded in whole or in part from funds generated by with specific programs. Overall, these projects have resulted in a reduction of approximately 23% in total energy usage compared to FY95 levels. The attached table lists the specific projects included in this program, their costs and funding sources, and the reduction in energy usage.

The Energy Conservation Cycle

The energy program is composed of a continuum of activities, as represented by the attached diagram. Improvements in energy efficiency are identified for new construction, remodels and repairs in existing facilities, and for improvements in building maintenance and operations practices. The Division has implemented a program of routine preventative maintenance, which keeps building systems operating at optimal levels, and provides information on the condition of system components. The energy management and maintenance management systems provide current information on the performance of building energy systems, and help identify deficiencies and potential enhancements to performance.

This information, in turn, is used to identify further improvements for new construction, equipment needing replacement, and improvements in operating practices. Post project evaluations are done for all energy conservation projects, and will include building occupants' assessment of system performance and comfort levels as well as the technical analysis of the effectiveness of energy conservation measures.

Energy Conservation Policy

While different aspects of the energy program have been in effect for some years, a comprehensive policy statement had not been developed to guide program implementation and funding decisions. The attached set of energy program policies, adopted by the Executive Managers, sets out the City' s basic approach to implementing energy management and conservation strategies. The attached policy states the mission, goals and principle strategies of the City' s current energy program. In addition, based on experience with the present program, the draft includes improvements to current operating practices and funding strategies.

There are five principle policy changes or clarifications included in these policies. First, a specific criteria is established for energy conservation in new construction and extensive renovation of City facilities. The performance target is a 20% reduction in energy consumption beyond current code requirements. In addition, this performance expectation would be included in initial project scoping and conceptual design criteria, as the most cost effective strategy is to include conservation measures at the beginning of a project. (For example, inclusion of energy conservation measures in the new Library have only added an estimated 1% to the design and construction costs of that project, and will result in energy usage 30% below designing to the minimum allowed under the current building code.)

Second, the policy on inclusion and funding of energy conservation measures in partial building remodels or renovations has been clarified. In these cases, a renovation project is initiated to meet either service delivery needs or building deficiencies, and may have limited potential for energy savings. In these cases, a review of potential energy efficiency measures will be done at the start of the project, and standard energy conservation measures (efficient lighting fixtures, motors, or controls) will be included in the project budget. More extensive energy measures would be funded by other sources - such as utility incentives or loans to be paid from future cost savings - if they are to be included.

Another policy clarification is that building management practices include the use of Direct Digital Controls (DDC) to optimize and monitor building mechanical system performance. Due to the significant improvements in the living quality and energy efficiency of building operations that these systems support, the underlying strategy is to incorporate DDC systems where possible in new construction and major facility renovations.

The practice of commissioning new construction is being added as an energy management tool. Commissioning requires that systems operation be monitored under controlled conditions to ensure that they meet design criteria, and includes training of maintenance and operating staff in building systems in a "live" setting. Commissioning typically occurs between the time a building is substantially completed and occupants move into the space. This process potentially reduces the amount of system

maintenance and adjustments required during the warranty period, and should provide the most comfortable work environment for users at the time the building is occupied. The scope of the commissioning element will be determined by the scale and complexity of the specific energy conservation project. Costs and scheduling of commissioning will be included in initial project estimates.

Finally, the goal for the Facilities Division in encouraging energy conservation in the workplace has been defined. The Division will develop internal education and outreach efforts, and will work with other programs involved in the City' s overall sustainability program in coordinating both the content and the method of communicating workplace conservation messages.

In summary, these policies further Council goals on sustainability through optimizing energy conservation, while supporting the City' s needs for efficient service delivery and a comfortable work environment. For further information, please contact Glen Svendsen at 682-5008